

NGV FY 2005 RD&D Prioritization

Request Summary

The natural gas vehicle industry is requesting Congress to approve \$10 million for FY2005 NGV RD&D. These funds are needed for the following:

1. To continue the enhancement of national NGV safety codes and standards (\$250,000).
2. To continue/expand public/private sector industry RD&D coordination (\$250,000).
3. To capitalize on DOE's investments already made through the Next Generation Natural Gas Vehicle (NGNGV) program to get medium and heavy-duty NGV engines that meet the EPA 2007 emission standards integrated into new platforms and field tested (\$3,500,000).
4. To continue R&D to enhance CNG, LNG and LCNG refueling infrastructure reliability, safety and efficiency (\$500,000)
5. Develop and certify natural gas engines through the NGNGV program that meet the EPA 2010 emission standards, integrate those engines into new platforms and field-test those platforms (\$4,500,000).
6. Begin integration of a natural gas engine into one medium duty hybrid-electric platform (\$1,000,000).

Background

Codes & Standards Support: The highest priority for the NGV industry is to continue to ensure that NGVs are safe. Despite millions of miles driven in NGVs, there never has been a fatality in the U.S. associated with the failure of an NGV system. Maintaining that enviable record requires constant monitoring and enhancement of NGV and natural gas fueling safety standards and codes and ongoing coordination with local/regional fire, safety, and code officials.

Industry Coordination: DOE has been the primary sponsor of several outreach efforts that bring together officials from government and the private sector. The NGV Technology Forum, for example, works to maintain a current, national, consensus public/private sector NGV RD&D plan. It also brings together other RD&D co-funders (e.g., SCAQMD, NYSERDA, TERP and private sector companies) to help leverage DOE's investment dollars. Other outreach efforts, like the Transit Users Group (TUG), periodically bring together fleet users to share problems and solutions, and thereby cost-effectively help resolve technical problems. Similar User Groups would be valuable for airports and refuse truck fleets.

Complete Existing Projects: The NGNGV has in place a comprehensive plan to (1) develop new, cleaner, more efficient medium and heavy-duty natural gas engines, (2) certify those

engines, (3) integrate those engines into truck and bus chassis, and (4) field test (demonstrate) those vehicles to ensure that the integration was done correctly (or to identify what needs to be improved). Several projects with John Deere, Cummins and TeleflexGFI/General Motors already are well underway to develop engines/vehicles that meet the EPA 2007 emission standards. These products are targeted to the school bus, medium-duty truck and transit markets. Without continued federal funding, these projects would prematurely terminate before products could be commercialized and the investment DOE already has made would be lost.

Work on Refueling Infrastructure: One of the primary barriers to faster growth in NGV use is the embryonic state of the NGV fueling infrastructure. The NGV industry has identified a long list of R&D projects that are needed to improve the reliability, safety and cost-effectiveness of NGV refueling technology for compressed, liquefied and liquid-to-compressed fueling stations. In general, NGV fueling equipment companies are relatively small businesses. Despite that, they are willing to provide co-funding (along with interested state and local government agencies). Federal funding and coordination, however, is essential.

New Projects to Serve Additional Markets/ Meet New Standards: The EPA engine emission standards that go into effect in 2010 are extremely tight and are technologically difficult to achieve. However, natural gas engines will be able to meet them – if adequate RD&D funding is available. Every NGV engine manufacturer either will need to meet these standards or cease competing in the market. Therefore, projects have been identified with Mack Truck, Clean Air Partners and Westport Innovations as well as John Deere, Cummins and TeleflexGFI/GM to make products for large class 8 trucks, trash trucks, transit buses, school buses and medium-duty trucks. These companies along with several state and local government agencies/programs (e.g., California - SCAQMD, New York - NYSEDA, Texas - TERP) are ready to contribute to this objective, but they are looking to the federal government for co-funding and national project coordination.

NGV Hybrids: Hybrid-electric vehicles can make a huge contribution to reducing emissions and petroleum use. In addition, fuel cell vehicles cannot be developed without successful commercialization of hybrid technologies. Natural gas hybrids would be the cleanest hybrid option (short of hydrogen vehicles) and would displace the most petroleum. In addition, natural gas hybrids would be the next step in the development of fuel cell vehicles since those vehicles will require both hybrid and gaseous fuel technology. Currently, most medium and heavy-duty hybrid vehicles under development are gasoline or diesel hybrids. Federal funding is needed to encourage a manufacturer or manufacturers to invest in natural gas hybrid platforms.

Caveat

The above funding request is what the NGV industry believes is needed for projects. Overlaying all of this is the following concern. Of the project money that Congress approves, DOE takes approximately 10-15 percent for what is referred to as “internal taxes.” This money is set aside for small business, minority and other grants – but not necessarily in the project areas from which the money is taken (and, as far as the NGV industry knows, never for NGV projects). In addition, if the money is processed through one of the DOE laboratories or contracting offices, up to 15 percent more is taken for management, administrative overhead, etc. Therefore, to

actually get \$10 million into the hands of NGV RD&D companies would require funding of about \$14.2 million.

Legislative Language

To ensure that DOE is not confused about the Congress' intent on how these monies are to be used, the NGV industry urges Congress to be as specific as possible about its direction to DOE. It is suggested that the following clarifying language be inserted into the Appropriation Bill:

For natural gas vehicle and natural gas vehicle fueling safety codes and standards (\$250,000). For public/private sector industry natural gas vehicle RD&D coordination (\$250,000). For continuation and completion of ongoing efforts within the Next Generation of Natural Gas Vehicles Program for medium and heavy-duty engines that meet the EPA 2007 emission standards integrated into new platforms and field tested (\$3,500,000). For natural gas vehicle fueling infrastructure (\$500,000). For the development and certification of natural gas engines through the Next Generation of Natural Gas Vehicles Program that meet the EPA 2010 emission standards, integrate those engines into new platforms and field-test those platforms (\$4,500,000). To begin integration of a natural gas engine into one medium duty hybrid-electric platform (\$1,000,000).